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B. Hillard  
1 of 3

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE  
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

APPELLANT'S MAIN BRIEF ON APPEAL

APPELLANT: Heiko Holzheur DOCKET NO: P99,1523-01  
SERIAL NO.: 09/369,360 ART UNIT: 2173  
FILED: August 6, 1999 EXAMINER: T. Hailu  
Confirmation No. 6693

TITLE: Search and Navigation Device for Hypertext Documents

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Sir:

In accordance with the provisions of 37 C.F.R. §1.192, Appellant submits  
this Brief in support of the appeal of the above-referenced application, in  
15 triplicate, in support of the patentability of claims 1-6, 8-14, 16-19 finally rejected  
in the Office Action, dated April 2, 2003 ("OA") (this Office Action does not make  
reference to claims 18 & 19). A copy of the claims on appeal is attached as  
Appendix A, and a copy of the Final Office Action is attached as Appendix B. A  
Notice of Appeal was filed on June 24, 2003.

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REAL PARTY IN INTEREST

The real party in interest in this appeal is the assignee, Siemens  
Aktiengesellschaft, a German corporation.

RELATED APPEALS AND INTERFERENCES

There are no related appeals and no related interferences known to

25 Appellant, Appellant's Assignee, or Appellant's legal representative.

## **STATUS OF CLAIMS**

Claims 1-6, 8-14, and 16-19 are on appeal, and constitute all pending claims of the application. The Examiner neglected to act on claims 18 and 19 that were added in Preliminary Amendment B of an RCE filed on September 30, 5 2002.

Claims 1-6, 8-14, 16 and 17 were all rejected under 35 U.S.C. §103 as being obvious over Pirolli, et al. (U.S. Patent No. 5,895, 470) in view of Hoppe, et al. (U.S. Patent No. 5,515,488).

Copies of Pirolli and Hoppe are attached as Amendment C.

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## **STATUS OF AMENDMENTS**

Amendment C was filed on February 12, 2003 and served as the basis for rejection in the Final Office Action—therefore, all amendments to the application are of record at the time of the appeal.

## **SUMMARY OF THE INVENTION**

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In general terms, the present invention is a device and appertaining method for automatically displaying documents related to a known hypertext document that serves as a starting document without the user having to extract search words from the content of the starting document in order to initiate an index or full-text search. The display provides a symbolic representation of the 20 starting document and of the documents connected to it, along with an indication of the degree of similarities of the linked documents. (3/8-15)

A hypertext document containing hypertext links (e.g., an HTML document) is shown on the graphical display, using a “browser” program that

interprets HTML format instructions for presentation. The invention takes an address (also known as a “URL”) of the starting document as a parameter, and uses the links contained within the starting document to access other documents referenced by those links. This procedure is then recursively repeated for these  
5 other documents. (4/7-15)

An embodiment of the invention provides a display having a tree-like representation by recursing into the referenced documents: the documents may be represented as circles, and the links as arrows. (4/21-24). The circles may be shaded as a way of indicating a degree of similarity of various documents with  
10 the starting documents. (4/24 – 5/1; 7/17 - 8/1) The degree of similarity may be determined by a number of methods, including a word frequency comparison or more complex methodology involving positioning and normalization—the numbers being arranged in a matrix upon which degree of similarity (or “distance”) calculations are carried out. (5/12 – 6/11)

## 15 **ISSUES**

The issue on appeal is whether the subject matter of the claims 1-6, 8-14, 16-19 are obvious under 35 U.S.C. §103(a) over Pirolli, et al. (U.S. Patent No. 5,895, 470) in view of Hoppe, et al. (U.S. Patent No. 5,515,488).

## **GROUPING OF CLAIMS**

20 The claims on appeal include two independent claims (claims 1 and 10) and fifteen dependent claims (2-6, 8, 9, 11-14 and 16-19).

Since the basis in dispute for the rejection of the claims revolves around elements of independent claims 1 and 10, the patentability of claims 2-6, 8-9, and

18 stands or falls together with the patentability of independent claim 1, and the patentability of claims 11-14, 16-17, and 19 stands or falls together with the patentability of claim 10.

## ARGUMENTS

### 5 **ARGUMENT 1—Obviousness in view of Pirolli and Hoppe**

**Examiner's Position: The combination of Pirolli and Hoppe renders claims 1-6, 8-14, 16 and 17 obvious under 35 U.S.C. §103(a) because all of the elements of the claims are taught by this combination.**

The Examiner, in the OA, p. 2, states that Pirolli discloses a computer  
10 system comprising a processor, a pointing device and a graphic display (Fig. 14),  
and further discloses a software tool or browser (col. 6, lines 4-26) which enables  
a user to traverse through and view documents residing on the Web. The  
Examiner further states that Pirolli also identifies and categorizes document  
according their similarities related to the focus document or starting document  
15 (see Abstract, cot 10, lines 17-29). The Examiner states that Fig. 7 also shows  
an asymptotic pattern activation over nodes or symbols illustrated or  
characterized by graph bars 704 contained in the nodes at activated network 703,  
and that thus, the characteristic given to said node defines the degree of predicted  
relevance of web pages to the starting set of focus web pages (col. 10, lines 17-  
20 29). The Examiner further states that Pirolli clearly discloses measure of  
similarity of a staring document to a plurality of other documents using a dot  
product method (see Fig. 4, cot 7, lines 49-63, and elsewhere).

The Examiner acknowledges that while Pirolli discloses a graphical display  
program (web browser), it does not explicitly show the visualization aspect or in  
25 claim language "display respective symbols of said other documents"

The Examiner then provides the Hoppe reference as disclosing a graphical visualization of ionic representations of a search result including each icon having its own characteristic. The Examiner points to Fig. 6 of Hoppe as disclosing a history window displaying the search history tree of FIG. 3, and also as disclosing  
5 an ionic representation of documents satisfying a corresponding search expression (see Hoppe: cot 6, lines 37-col 11, lines 27). The Examiner then asserts that it would have been obvious to one having ordinary skill in the art at the time of the invention was made to incorporate the visualization, the displaying of ionic representation technique with Pirolli because the visualization technique  
10 could be used to provide an interactive overview of web localities that facilitates navigation as suggested by Pirolli (see cot 12, starting from lines 47, visualizations). The Examiner rejected the method claim 10 under the same rationale.

In the Examiner's Response to Arguments section of the OA on p. 5, the  
15 Examiner states that Fig. 8 of Hoppe teaches that each circle displayed in Hoppe represent individual documents, and that each of the circles may also contain a list of or some iconic representation of the documents satisfying the corresponding search expression. (col 10, lines 554). The Examiner further stated that Hoppe Fig. 8 shows that the circle attributes represented by 811 of  
20 Fig. 8 or 907 of Fig. 9 correspond to a common results relationship, whereas each of the areas of circles that do not overlap another circle, which are represented by their attributes, there do not have common results (col 10, lines 55-65).

**Appellant's Position: The combination of Pirolli and Hoppe do not render claims 1-6, 8-14, 16-19 obvious under 35 U.S.C. §103(a) because all of the elements of the claims are not taught by this combination.**

2. *There is no teaching or motivation to combine Pirolli with Hoppe*  
5 *because the objects that are displayed in Pirolli represent individual documents,*  
*and objects that are displayed in Hoppe represent entire sets of information from*  
*a search result, which are two very different things.*

In the OA the Examiner acknowledges, in the first full paragraph on p. 3,  
that the display of "respective symbols of said other documents" is not explicitly  
10 shown in Pirolli.

Appellant contends that there is no teaching or motivation to combine  
these two references to produce the inventive result. The entity that is  
displayed graphically in Hoppe represents attributes of a set of documents not a  
single document as indicated by Pirolli and as required by the present invention.  
15 The Examiner asserted that each circle in Fig. 8 of Hoppe represented an  
individual document. This is clearly an erroneous understanding of Fig. 8 of  
Hoppe. Hoppe states at 10/42 that in Fig. 8, the Venn diagram includes circles  
805 -807, which correspond to the results of search and expressions 801--803,  
respectively. These graphical representations are not individual documents.  
20 Hoppe states at 10/45-47 that:

The number of documents satisfying the search  
expression of the corresponding circle is indicated by  
its size, by a number contained in the circle, or both.

Appellant is at a loss to understand how the Examiner is interpreting this  
25 section of Hoppe as teaching that each circle in Fig. 8 reflects an individual  
document. This is clearly different from the invention in which each document

symbol corresponds to one document and where the relationship between each of these documents is shown by a diagram. Furthermore, since the entities displayed in Hoppe (circles reflecting sets of documents) is fundamentally a different entity than the individual documents according to the invention and those shown in Pirolli, combining Pirolli with Hoppe is like mixing apples and  
5 organs—one cannot equate the showing of a relationship between documents with the showing of a relationship between sets of documents because it raises numerous issues, such as the relationship of documents within a set, and what the measure of relatedness (degree of similarity) would truly represent.

10 Furthermore, according to Hoppe, the attributes represented by the graphical illustrations do not correspond to a relationship with one another, as required by the present invention, but rather correspond to a relationship of an associated search and expressions. Hoppe states, at 10/42-44, “the Venn diagram includes circles 805-807, which correspond to the results of search  
15 expressions 801-803 respectively”. As noted previously, the number of documents satisfying the search expressions of the corresponding circle is indicated by its size by a number contained in the circle or both, and that each of the circles may also contain a list of or some iconic representation of the documents satisfying the corresponding search expressions. Therefore, each of  
20 the circles shown by Hoppe clearly correspond with a set of documents based on a search expression.

This clearly is not a document to document comparison as required by the invention, and one would not consult this reference in order to arrive at the present invention when viewing Pirolli. There are a myriad of ways of visually

representing relationship information on a screen, and the inventive use of augmenting symbols representing the documents themselves and their relationship to some starting document is not obvious. The mechanisms one would use to combine Hoppe's set-based objects (where the graphical fill relates  
5 to some arbitrary search criteria) with the objects displayed in Pirolli to produce the present invention are quite difficult to envision. The use of Hoppe's set-related display objects to provide an element of the present invention describing document-related display objects represents the precise type of hindsight analysis that is not permitted under 35 U.S.C. §103.

10        Since neither the objects being displayed in Hoppe nor the attributes reflecting a document or a degree of similarity measure, one would not turn to Hoppe after reviewing Pirolli in order to find the solution to displaying a document whose graphical form relates to a degree of similarity to other documents according to the present invention. The present invention provides a new way of  
15 displaying document relationships that is not taught or suggested by any combination of the prior art references.

Furthermore, the strength associations of Pirolli are displayed in the links between documents and not within the documents themselves; Pirolli does not focus on a relationship to a central document for display purposes .

20        According to Pirolli, "[representations constructed include] Graph representations of the strength of association of Web pages to one another which are used in the spreading activation..." 5/66 - 6/1. The display of these representations of strength of association are described in Pirolli, referring to Fig.



10, as being “the widths of the lines connecting the various pages 1001-1007 [which] is an indication of how similar the pages are.” 11/13-15. Thus, Pirolli’s display focuses on a between-document relationship and does not utilize the concept of a starting document for display purposes.

5           Claim 1 of the present invention requires, in part, that, a similarity measure between a starting document and each other document is calculated and that the document symbols are augmented by a marking dependent on the calculated measure of similarity. An exemplary embodiment of this display can be seen in Fig. 1 in which the degree of relationship of documents to the starting document  
10 is represented by the shading used on the document itself. This is different from Pirolli because the present invention permits the simultaneous display of a structure of links and a structure of similarities belonging to the same originating document within a common representation of both link structure and similarity structure. Pirolli does not provide such a simultaneous display, nor could it be  
15 modified to produce such a display as it’s display does not focus on a single starting document, even if combined with Hoppe.

For the above reasons, Appellant respectfully contends that the present invention is not obvious in light of Pirolli and Hoppe.

#### **CONCLUSION:**

20           For the above reasons, Appellant respectfully submits that the Examiner is in error in law and in fact in rejecting claims 1-6, 8-14, 16 and 17 (and thus, by extension, would be in error if rejecting unconsidered claims 18 and 19) based on

the teachings of the above-discussed references. Reversal of the rejection of all of those claims is justified, and the same is respectfully requested.

This Brief is accompanied by a check in the amount of \$300.00, as required by 37 C.F.R. §1.17(c). If necessary, the Commissioner is hereby  
5 authorized to charge any additional fees which may be required to account No. 501519.

Respectfully submitted,

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#### **CERTIFICATE OF MAILING**

I hereby certify that an original and two copies of this correspondence are being deposited with the United States Postal Service as First Class mail in an envelope addressed to: Mail Stop Appeal Brief-Patents, Commissioner for Patents, PO Box 1450, Alexandria, VA 22313-1450 on August 18, 2003.

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